



DR. BASCOMBE,
ON
YELLOW FEVER

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Disciplinary Society

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ON THE
NATURE AND CAUSES OF YELLOW FEVER.



ON THE
NATURE AND CAUSES OF FEVER,

ESPECIALLY THAT TERMED

Yellow Fever.

THAT IT IS NOT A DISEASE "SUI GENERIS,"

NEITHER

IS IT A MALADY OF "MODERN ORIGIN."

READ AT THE MEETING OF THE EPIDEMIOLOGICAL
SOCIETY, IN MAY LAST,

BY

EDWARD BASCOME, M.D.

"PHYSIOLOGICALLY, we are made up of nerves and fibres, endowed with various
faculties, and superior to all other animals."

"PATHOLOGICALLY, life is a bubble, suspended by a hair; *memento mori.*"

LONDON:

JOHN CHURCHILL, PRINCES-STREET, SOHO.

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ON THE
NATURE AND CAUSES OF FEVER.

“IGNIS percepit ? unda mergit : aëris
Vis pestilentis æquori ereptum necat ;
Bello superstet, tabidus morbo perit.”

THE ordinary term Fever, conveys but little as to the real nature or essence of the malady. The characteristics assigned to Fever are, increased temperature and acceleration of the circulation, after shivering, accompanied by the disturbance of various functions of the body, with diminution of strength, or energy, especially in the limbs ; it is however by an assemblage *only* of these characteristic symptoms that we can recognise the malady.

Moses the sacred historian was the first person on record who used the term Fever, calling the malady *Kadachat*, ardent fever, from *Kadach*, to burn, to set on fire, to inflame.

“ I will even appoint over you, terror, consumption and burning ague,” Lev. xxvi. 16. “ And the Lord shall smite thee with consumption and fever, &c. &c.,” Deut. xxviii. 22. And it would appear that what the Hebrews called heat, the Greeks called fire, and what the former designated pestilence the latter called “Loimos.” — “Nosos Theoi,” the disease of God. Again, what the ancient Hebrews named perdition, the Greeks called mortality and destruction; so the Latins and all other nations adopted words of similar import in their languages to express the same diseases, which received different epithets according to their degrees of violence, mortality, or prevalence. Subsequently, physicians have, from time to time added to the *indefinite* term Fever the several terms or epithets, Intermittent, Remittent, Continued, Bilious, Pestilential and Typhoid; they have also superadded the terms Pandemic, Sporadic, Endemic and Epidemic, from the particular, general, or casual occurrence of the malady,—at times attacking whole nations, or districts, whilst the variety of constitutions of man, coupled with the circumstances of locality, influenced notably by elemental disturbance, or variations, will sufficiently account for the varied forms of invasion giving rise to such diversified nomenclature.

“ The genuine nature of fever,” says the cele-

brated Lieutaud, “lies in great obscurity.” “It seems hitherto to have eluded the researches of physicians,” says our illustrious Cullen.

To cite the various doctrines which have from time to time been elicited as to the nature of this malady, *Fever*, would not only be a work of supererogation, but would tend but little to practical utility. I shall therefore take but a cursory glance at the doctrines of the most eminent of their propounders.

The hypothetical doctrines of increased animal heat and bile were professed by the great parent of rational medicine, Hippocrates, by Galen, his commentator, and their disciples, for two thousand years. They considered “that the heat of the blood constituted fever, and that plethora produced the preternatural heat; also, that putridity of the humour, excited putrid fever. Hence their description of plenitude and corruption, doctrines which occupied the schools of medicine in Arabia, Greece, Italy, and Gaul, until the beginning of the sixteenth century.”

In our historical progress, we will further find that Erasistratus, a celebrated physician of Cea, was the first who introduced the doctrine of “Error Loci,” which was adopted by Asclepiades of Bythinia, and others.

The famous Paracelsus introduced the chemical system of medicine which existed until the middle

of the seventeenth century, when the great discovery of the circulation of the blood, by *our* Harvey, *of immortal memory*, led to those systems which we find delivered in the writings of Stahl, of Germany—Hoffman, of Saxony—and Boerhave, of Leyden. Cullen derived his ideas of universal spasm and atony of the extreme vessels of the body, as the cause of Fever, from the doctrines of Hoffman, Thessaulus, Themison, and others; and subsequently we find a countryman of ours, a Dr. Cole, a practitioner, at Worcester, considering that the cause or nature of Fever consisted in a laxity or debility of the brain, and origin of the nerves. In more modern times we have a Dr. Clutterbuck also fixing the seat of fever in the brain; whilst the famous Parisian, Broussais, aimed a death-blow at the Cathairo mania, then so prevalent in this country, by directing attention to the gastro-intestinal tube as the seat of Fever.

Thus we have had, from time to time, a series of doctrines by turns passing into oblivion, each after more or less of existence and of notoriety.

As far as my own observation and research serve me, I consider the most rational idea, as to the nature of the malady termed Fever, to be that which was advanced by the famous Diocles, of Carystus, who was subsequent to Hippocrates. *He* was of opinion that Fevers, those which are

termed Idiopathic, arose in a similar manner as inflammation, injuries, and poisons of venomous animals; that, strictly speaking, Fever is not so much a primary disease, but symptomatic of some local disturbance or affection; and we find the observant Abernethy, who fully concurred in this opinion of Diocles, thus expressing himself: "I will venture to assert that the Fevers produced by local diseases, are the very identical Fevers which physicians meet with where there is no external injury."

During long and continued observation, in various climates, from all that I have witnessed and read on the subject, I cannot but be of opinion that ALL FEVERS ARE ESSENTIALLY THE SAME, character being assigned to them by accident, locality, habit of body, &c.

"There are but two kinds of death," says Hufeland: "that of nerve-life (sensibility), and that of blood-life (irritability)."

Fever, I consider, to be nothing more or less than Nature's effort or attempt at a curative process; Nature's efforts to repair a breach, as in Symptomatic Fever (*par example*, as in the case of a broken limb), or to get rid of something inimical to vitality, as is the case in what is termed Idiopathic Fever; *the noxious something invading primarily that mainspring of vitality—*

the nervous apparatus, causing suppression of the depuratory or secretory functions, thereby oppressing and vitiating the vascular system, and proving more or less LETHAL according to the extent of involvement, or impression made on, the nervous system.

Yellow Fever, commonly so termed—the more immediate purpose of this paper, may be said to be a disease the symptoms of which vary greatly, observing many gradations, from the remission of the mild, or common biliary, to the concentrated typhoid state, often attended *by the fortuitous symptoms and aggravated characteristics of all rapidly fatal epidemic maladies.*

Further, it is a disease which may be said to be endemic in all hot climates of both hemispheres of the globe, and is not contagious in any one region of the earth, as extensive experience has taught us. It prevails in various parts of Asia and America, more so in some than in others. It is specially known in Siam, Batavia, Bengal, the West Indies, on the banks of the Mississippi, in the southern States of America, as also in the northern States, in those cities and towns situated on the Atlantic coast, as New York, Philadelphia, Boston, Baltimore, &c. It also occurs with different degrees of violence, according to the relative powers of the exciting and predisposing causes in the various

situations of those extensive dominions in the Archipelago, of which the great parent of medicine, Hippocrates, makes mention.

The malady has been variously designated, being known by a variety of appellations. It was called by Moses, *Ardent Fever*; *Causus*, or *Burning Fever*, by Hippocrates; Cullen denominates it, *Fever with yellowness*; Vogel names it, *Golden-coloured Fever*; Sauvages, *Jaundiced TYPHUS*; Rush, *Bilious remittent Fever*; the French, *Maladie de Siam*, or *Fièvre des Matelottes*; whilst the Spaniards term it, *Vomito Prieto*, or *Black Vomit*. Again, from the past ravages committed by this terrible disease in the West Indies, in America (North and South), and elsewhere, it has also been designated *Barbadoes*, *Jamaica*, *St. Domingo*, and *American Fever*. Further, from its fatal visitation on the coasts of Guinea and the adjoining islands, it has been styled, *Bulam Fever*; in British India it is distinguished by the name of *Jungle Fever*, *Hooghly Fever*, or *Endemic of Bengal*; in the low lands of Hungary, and in the south of Spain, it is called *Hungarian*, or *Andalusian Pestilence*; and very recently in this country a new name has been added, that of *Hæmægastric Fever*, or *Pestilence*, by a writer who also considers the malady, namely, *Yellow Fever*, to be one, *sui generis*.

Most fortunately, however, it happens that in a practical point of view it is of little import

what names you attach to this or any other disease (cholera not even excepted). It is the understanding and determining with accuracy the *nature, seat, extent, and relations of the morbid phenomena* which will lead to the most desirable, in fact, the paramount object—namely, a rational mode of treatment.

With reference to our subject, *Yellow Fever*. Although persons of a robust habit—new comers—unacclimated Europeans (in the West Indies, for instance,) are more susceptible and oftener attacked; yet, when the disease becomes epidemic, it spares no constitution nor habit of body, *complexion*, age, nor sex. The assertion, therefore, that the coloured race enjoy a greater immunity from the disease than the whites, is incorrect; for in various parts of the West Indies I know the coloured population to have suffered from it equally with the *white*. In fact, during more than one pestilential season in British Guiana, situated on the coast of South America, the coloured population suffered most, the mortality having been greater amongst them than amongst the whites. This was first specially evinced with regard to some black troops, who were sent to replace the white soldiers in garrison, and afterwards for four consecutive years, 1837—1840, amongst the coloured population of George Town, Demerara, British Guiana, as the following bill of mortality will show.

Bill of Mortality from Yellow Fever, from 1st January, 1837,
to 30th September, 1840, in George Town, Demerara,
British Guiana.

1837.	White Inhabitants.	Seamen.	Coloured Inhabitants.	Total.
January	8	0	25	33
February	3	1	32	36
March	4	1	26	31
April	11	1	31	43
May	21	7	49	77
June	40	39	50	129
July	37	45	75	157
August	15	29	53	97
September	9	37	36	82
October	5	44	43	92
November	12	23	36	71
December	9	30	34	73
	174	257	490	921
1838.				
January	13	43	45	101
February	9	37	43	89
March	11	25	50	86
April	13	10	37	60
May	8	15	35	58
June	8	38	43	89
July	12	44	38	94
August	11	30	39	80
September	12	27	39	78
October	11	20	49	80
November	12	20	68	100
December	20	17	61	98
	138	326	547	1013

1839.	White Inhabitants.	Seamen.	Coloured Inhabitants.	Total.
January	17	7	57	81
February	15	6	47	68
March	5	4	41	50
April	5	3	42	50
May	11	3	47	61
June	11	2	33	46
July	7	4	40	51
August	13	9	42	64
September	12	22	39	73
October	11	23	37	71
November	12	49	24	85
December	16	24	27	67
	135	156	476	767
1840.				
January	22	24	26	72
February	23	15	30	68
March	12	4	24	40
April	12	2	32	46
May	8	3	29	40
June	8	5	30	43
July	5	2	30	37
August	13	3	38	54
September	9	0	33	42
	112	58	272	442

From the prevalence of this malady in so many parts of the world, and under circumstances so widely different, it is not to be wondered at that it should often be accompanied by a diversity of symptoms, which have given rise not only to

contradictory opinions as to its *nature* and *origin*, but also as to its *causes* and *treatment*.

With reference to the *causes* of yellow pestilences, it must be borne in mind that they should, as in all endemic or epidemic diseases, be divided into the predisposing and the exciting causes; the former consisting in that which enervates or spoils the human vitality—as noxious vapours or gases arising from a variety of sources, irregularity, scantiness, and unwholesomeness of diet, &c.; but, more notably, non-acclimatization, as in the full-habited European, the unaccustomed intense heat rarefying the blood of such strangers to the climate, thereby rendering the system more susceptible of the existing states and vicissitudes of the atmosphere. The exciting causes are exemplified in the variations of hot and cold, moist and dry heat, rarity or density, &c., which have been noticed and commented on by both ancient and modern authorities. “*Regionum positiones, ventorumque mutationes, et tempestatum transmutationes, annique conditiones,*” writes Celsus, in imitation of the great parent of rational medicine: whence all endemic and epidemic diseases proceed, or by which they are excited.

In order to show the difference between what is called *Bilious Remittent*, and the malady termed *Yellow Fever*—that the latter is distinct,

a disease *sui generis*—nice distinctions have been attempted with reference to the discolorations of the skin, *observable* at times in both *grades*; but *not*, however, constant in either, or necessary to the malady, any more than black vomit or hæmorrhage, they being only indications of an aggravated form of disease.

An eminent writer states, that in *Bilious Remittent* fever (in one form), the skin is of “a deep yellow colour;” in a more intense form it is stated to be “a *very* deep yellow;” while in *the true yellow* disease the colour is that of “a very pale lemon!”

By another writer, we are told that the colour of the skin in *Hæmægastric* Pestilence—the *true Yellow Fever*—is either of a pale yellow or a *dingy tint*, often presenting patches of a dirty yellow or livid hue; while, in the Yellow Remittent, the colour is more complete and deep than in the former.

Now I, who have been for five months together at the bed-side, *night and day*, literally living in an hospital for seamen, administering with my own hand stimulants and other *medicamenta*, having carefully watched as many as twenty cases of Yellow Fever at a time, could never discover any appearances or symptoms to warrant any such *very nice* distinctions. Yellowness of the surface, the skin, although (as I before observed)

common, is not *constant*, and not at all *essential* to the disease, any more than black vomit; the former—the yellowness, with other discolorations of the body, as vibices, &c., being dependent, more or less, on the alteration of the constituents of the blood, as well as a deterioration of the *vitality* of the capillary system; whilst in the full-habited, unacclimated European, suddenly attacked and rapidly taken off in the prime of life, a true jaundiced appearance is very generally exhibited.

Further, as to Yellow Fever being a distinct disease—a disease *sui generis*—we have another recent writer supporting such opinion; and *he*, by way of illustration, refers to the malady which raged some years ago at the island of Grenada, which Dr. Colin Chisholm asserts in his work to have been imported from the *new* colony, Bulama. However carefully Dr. Chisholm may have endeavoured (?) to collect and display the facts, concerning the Fever in question (the only true Yellow Fever, the Vomito Negro, the Bulam Fever, as it has been considered), as to its having been introduced from Bulama into Grenada by the ship *Hankey*, Captain Coxe,—his, Dr. Chisholm's, statements will be found to be egregiously garbled and wrong, if reference be made to the minutes of the trustees of the Bulama Association, which I have specially noticed at some length

in my forthcoming work on Yellow Fever, and which may be found in an "Essay on Colonization, by C. B. Wadstrom," published in London in the year 1796.

Having had a pretty tolerable experience as to the disease in question, Yellow Fever,—having observed it in all its varied forms, in the islands of Barbadoes, Antigua, Jamaica—in the Bahama Islands—also at Bermuda, the United States of America—and, though last, not of the least consideration, in British Guiana, during a sojourn of many years—that extensive British possession, or rather settlements in South America, comprised of Demerara, Essequibo, and Berbice—with all deference to the learned authorities to the contrary, am of opinion, that what is commonly called Yellow Fever, and the malady within the last half century termed true Yellow Pestilence—the Vomito Negro—the Bulam Fever—are one and the same disease; that it is not a specific, a distinct malady—a disease *sui generis*; neither, as it has been asserted, is the system protected from a second, or even a third attack,—for I have seen the malady in question assume all the grades, from intermittent, remittent, continued, and typhoid, to "intense Yellow Fever," with bubo-carbuncle—simulating in fact what is called the true plague. I have known also persons to be attacked a second, and even a third

time, in the West Indies, *especially* those who had been absent from the country for a short time only, say a few months, on a visit to Europe.

With reference to its contagious nature, or that it (Yellow Fever) is ever propagated by contagion, nowhere in ancient history is the idea entertained—in fact, the doctrine of contagion may fairly be considered as one of comparatively modern date. The great parent of rational medicine and all writers previously to him invariably speak of Epidemics as arising from places, seasons, and constitutions of the air; and it would appear that Yellow Fever, or pestilence, was not unknown to him; as, in the ninth section of his book on “Crisis,” he writes, “that in burning fevers a yellowness (icteros) breaking out on the fifth day, accompanied by hiccup, was a fatal sign;” and again, in his book, “De Ratione Victus in Morbis Acutis,” he tells us that “in bilious fever, yellowness coming on with shivering before the seventh day, terminates the fever; but if it come on abruptly (or unseasonably), without shivering, it is mortal.” Further, as regards black vomit, we find (in the first section of his “Coan Prognostus”) him enumerating black vomit as one of the most desperate symptoms: *melaina chole*, black bile; *melaina emeton*, black vomit; and *melanon emeton*, the vomiting of black matter,—being phrases to be

met with in the works which pass under his name.

In the present day, of what should be considered as black vomit, contradictory opinions are entertained,—some considering every matter of dark colour as constituting black vomit, and they tell of patients having recovered therefrom. Every experienced and observant practitioner can, however, distinguish between the two kinds of dark matter ejected from the stomach in Yellow Fever;—the one consisting of dark, or black, grumous blood, having the appearance of coffee grounds; the other, a flaky, shreddy, dark fluid, having the appearance of mucosities, and which, on plunging the hand into, may be lifted up *en masse*, like a lump of *sea blubber*. From the former, the coffee-ground looking matter, many recover; from the latter, the shreddy mucosities, *none*;—and an autopsy will show the stomach in a state of disorganization, with the mucous membrane easily detached, and the substance of the viscous as easily torn.

With reference to the specific nature of the malady in question, commonly termed and known as Yellow Fever, Vomito Negro, or Bulam Fever, as to its being a disease *sui generis* as propounded by the erudite author of its new name, “Hæmœgastric Fever, or pestilence,”—as also by others,—I take leave to adduce, in support of

the non-specific nature of the disease, irrespective of my own, combined with historical research, the opinions of the following able and experienced persons.

We have Drs. Jackson and Pinckard,—the latter physician-in-chief to the British army in the West Indies, (both of whom were men of talent and of observation), giving their opinions. They observed the varied character of Yellow Fever, and were of opinion that *no one* symptom could be considered decidedly diagnostic of the malady. They further were of opinion that Yellow Fever, so called, was not a specific, a distinct disease, but merely an aggravated form of the common remittent or bilious fever of warm climates, augmented in malignity, especially in the full-habited unacclimated subjects.

Dr. Anthony Musgrave,* a gentleman personally known to me, when noticing, in his writings, the Yellow Fever that prevailed at Antigua in the year 1816, thus expresses himself: “Nothing was better calculated than this Fever to show that almost all the different kinds of Fever, that occur to us, are capable of issuing from a *common source*, or miasm, merely modified *by contingencies*; for in Antigua they all occurred in different individuals. The disease sometimes

* Recently deceased.

commenced as an intermittent or remittent, and sometimes in a continued type; it sometimes ceased in four or five days, which was its usual course; and sometimes it terminated in an intermittent. The head in some cases was chiefly affected; in others, the stomach, liver, or some other organ. Sometimes the patient died without hiccup or black vomit. *Recovery was no exemption from a second attack!*”

In further illustration, we find Dr. Dickson, in his official report of the Yellow Fever, prevalent at Barbadoes and at Antigua some years back, saying: “I had generally seen the disease of an ardent and continued form; and did not fully understand why authors talked of a bilious remittent Yellow Fever, until after the capture of the French and Danish islands. But the anomalies of form—the shades and changes which the disease assumes, according to the intensity of the *exciting causes*—the state of *predisposition*, or the spot of residence—could be nowhere more strongly portrayed than in the destructive epidemic of the Island of Mariegalante, in the autumn of 1808, where the different types of Fever were converted into each other, of the worst and most aggravated species. Yellow Fever in the combined form; also, in the comatose remittent, as it was termed, or intermittent, the exacerbations of which were so violent as frequently

to carry off the patient in two or three paroxysms, —while others sunk into a low protracted character of Fever resembling typhus.”

“The occurrence,” says Dr. O’Hallaran, “which preceded the appearance of the epidemic of Barcelona, in 1821, (Yellow Fever), corresponds with the old, as well as with the recent, observations on a similar subject in other countries, it almost invariably happening that the Yellow Fever of Spain is preceded by universal diseases of various forms and force; more particularly by bilious remittent, which are not unfrequently so aggravated and malignant, that physicians themselves do not venture to define the lines of demarcation between them and the avowed epidemic. This may be seen to be fully exemplified in the pages of my ‘History on Epidemic Pestilences.’ ”

Tommasini, one of our best modern pathologists, considers it now to be placed beyond doubt, that Yellow Fever cannot be considered to be a specific disease, a malady *sui generis*, but merely as the maximum of bilious or gastric Fever.

With reference to our subject, the celebrated Lind remarks that patients with mild intermittent Fever, who were sent to Greenwich Hospital, in the island of Jamaica, soon grew worse, and their disease turned into a malignant Yellow Fever!

Further, the Fever which prevailed at Balti-

more, in the United States of America, in the year 1797, began in the form of a bilious remittent Fever, and it continued in that form for many weeks, before it assumed the symptoms of malignant Yellow Fever. But to go further back in history, we find Burnett in his "History of the Reformation," speaking of intermittent Fevers having been so universal in England during the last year of Queen Mary's reign, that they *ultimately* raged like a true plague, and were equally deadly! *Again*, the yellow pestilence of Bulama, we are informed, often dwindled into long and obstinate intermittents, and Short tells us of epidemic Fevers running into plague, and plague also terminating in similar Fevers.

Dr. Heberden has satisfactorily shown the connection of plague with what is called Malignant Fever, and speaks of their affinity by mutual changes into each other; in fact, numerous proofs in support of the non-specific nature of Yellow Fever, or that it is at all a disease *sui generis*, may be adduced.

A Dr. Hamilton, of Lyme Regis, has described a Fever similar to Yellow Fever, as having been rife many years ago in Norfolk, and the very excellent practical physician, Dr. Greaves, of Dublin, clearly in his writings shows that the symptoms and anatomical character of a Fever which raged in Dublin in the years 1826 and 1827, were

the same as those laid down in cases of Yellow Fever by the best modern authorities, and similar to that disease, as in the course of these pages I shall show, raged in Ireland 1,188 years ago !

Professor Frank, a shrewd observer, very justly regarded Yellow Fever as an intense variety of the autumnal malignant Fever of temperate climates. In fine, in proportion to the climate, we see these Fevers increase in intensity. Thus, at Cadiz, Gibraltar, Malta, as also in various parts of Spain, history points out to us that there has arisen occasional visitation of Yellow Fever, approaching, if not altogether amounting, in violence to the Yellow Fever of the West Indies ; as we also note in the bilious epidemics of France, in which I will maintain that, although the intensity and consequent lethality be lessened, yet the essential characteristics are the same, not only in the generality of symptoms, but in the morbid appearances on dissection, the difference being only in degree.

Having adduced thus much in support of the non-specific nature of Yellow Fever—that it is not a disease *sui generis*—I must not conclude without allusion to the incorrect idea entertained by some eminent writers, men of great research, that Yellow Fever is a disease of modern origin or date.

“ It is a striking fact,” says Dr. John Mason

Good, "that although such mortal nuisances" (alluding to malaria) "have been exhaled into the atmosphere in all ages within the range of the tropics, the fever we are now entering upon is only of modern date in its malignant form." He continues: "The Yellow Fever *first* showed itself, so far back as we have any record of its origin, at Barbadoes, A.D. 1647, spreading to various others of the West Indian islands, and at length invading Boston, in the United States of America, A.D. 1693."

Amongst the writings of the ancient philosophers (Pliny, and others), we find mention made of *hospital* Fevers. Historians generally have noticed *Camp Fevers*; whilst the ancient poets, Livy, Ovid, Virgil, &c., have most accurately described the symptoms of *pestilential Yellow Fever of new settlements*. How the author (one of so great research and study) of the foregoing quotation could have been thus in error as to the non-existence of Yellow Fever previously to the year 1647 is almost incredible; for, in the first place, if we refer to the epidemiology of ancient Spain, noted fully 1,100 years before the Christian era, we will find there recorded a series of pestilences, assuming at various periods, down to the present time, the form of Typhus mitior, Typhus gravior (Petechial Putrid, or Feb. punctalis), Typhus icterodes (Andalusian

Yellow Fever, as it is now called), and the true plague. Again, at a subsequent period, you will find, A.D. 664, that a yellow pestilence depopulated the southern coasts of Britain, infected the provinces of the Northumbrians, spreading for a long time in various directions till it reached Ireland, where it prevailed with deadly violence; and it is especially described as having been attended by all the distressing characteristic symptoms of what is now called Yellow, or Bilious Remittent Fever. In fact, the name by which the disease is recorded, namely, “*Pestis flava*,” or “*Infirmetas icteritia*,” is demonstrative of its character.

Further, with reference to Yellow Fever not having been known in the United States of America before the year 1693, as conveyed by the foregoing quotation, we have it recorded that just eighty-five years previous to the year alluded to (1693) that A.D. 1608, yellow pestilence broke out in the fleet of Sir Thomas Gates and Sir George Somers, on its passage to the *new settlement* of Virginia in the United States. The vessels of the fleet were greatly crowded with a large number of immigrants, for the new settlement. The disease, which was attended with black vomit and yellowness of the body, caused great mortality. Amongst the victims was Sir George Somers, who was buried at the island of Bermuda.

Again, history informs us that so far back as A.D. 1618 previously to the settlement of Massachusetts, in the United States, a Captain Dermal, a British adventurer, wintered about that period at an Indian settlement on the northern coast, called *Manhiggen*. In the summer following, while passing down the American coast on the way to Virginia, says Captain Dermal, “I found many Indian villages totally depopulated; in others I found only a few Indians alive, still labouring under the effects of the pestilence, which exhibited spots, yellowness of the skin, and burning heat.” We have the further report of one Richard Vines and his companions, who were sent by Fernando Gorges, to explore the country. They wintered amongst those afflicted Indians, during the pestilence, and were *untouched by it!* We also find that the elder Cushman at Plymouth, in the year 1620, in the epistle dedicatory of his Sermons, published in London, on 21st Dec. 1621, has these words, “They (meaning the Indians) were very much wasted of late years by a great mortality, that fell among them three years since; which, with their own civil dissensions, and bloody wars, hath so wasted them, that I think the twentieth person is scarcely left alive!

Prince, in his Chronology, fixes the time of this Yellow Pestilence A.D. 1618, which date corresponds with Captain Dermal’s account of it.

One Hutchinson, also, in his description of this pestilence, says “that the Massachusetts tribe of Indians, of 30,000, were reduced to 300!” Gorges writes that the disease occurred in summer and autumn for several years, commencing in 1618, and ending about 1623. He thus describes the symptoms—a spotted, putrid fever, with yellowness of the skin and eyes, hæmorrhages from the nose, ears, &c.

“With deadly blast the fatal south wind blew,
Infected all the air, and poison’d as it flew.”

This distemper evidently was of domestic origin, as no known intercourse had been had with any part of *this new continent*; in short, it was an endemic bilious pestilence, or Yellow Fever.

So much in furtherance of the opinion as to the nature of Yellow Fever—that it is not “a specific disease,” a malady *sui generis*; furthermore, that it can by no means be considered to be a disease of “modern date or origin;” and with reference to the *alleged* fact that Yellow Fever—the true pestilence—the Vomito Negro—the Hæmœgastric Pestilence—the Bulam Fever—having originated at the new settlement in Africa, Bulama, a little more than half a century ago,—it was known in Spain and Africa nearly 3,000 years back, having ravaged towns and places in both countries, particularly those places situated on

the Mediterranean shores; and history specially notices the lethality of Yellow Pestilence, not only in ancient Carthage, in Africa, but also in Carthago Nova, in Spain.

“Without a *nervous* system there is no animal—there can be none; without a *circulating* one there are myriads.”—*Macculloch*.

In conclusion, I would observe, that in all Fevers, the nervous derangement precedes the vascular disturbance,—the first and most characteristic symptom being a remarkable diminution of the vital force. We will also find that in the worst cases, as in Yellow Fever, the nervous system is altogether more deeply involved than the vascular. In fine, in all cases of Yellow Fever, as also in the true plague, we perceive more or less of typhoid or adynamic symptoms,—the greater the predominance of which, the more fatal does the disease prove. This observation will also apply to all epidemics, influenza not excepted. The typhoid, or adynamic symptoms, indicating the amount of involvement of the nervous system,—constituting, as before observed, the most LETHAL symptom,—in a knowledge of which fact lies the tact of treating successfully all epidemics; although it be a lamentable fact, that, in many cases, so decided is the death-blow

given, by the *exciting* causes—the *predisposing* causes, which are mainly in our power, not having been remedied—that no human art will avail to avert its destructive influence.

“ Stat sua cuique dies ; breve et irreparabile tempus
Omnibus est vitæ.”

“ A term of life is set to every man,
Which is but short ; and pass it no one can.”



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